UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/472,134	12/23/1999	BRUNO GIROUARD	PM-265136	8367

909 7590 01/05/2005

PILLSBURY WINTHROP, LLP
P.O. BOX 10500
MCLEAN, VA 22102

EXAMINER	
BOEHLER, ANNE MARIE M	
ART UNIT	**PAPER NUMBER**
3611	

DATE MAILED: 01/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/472,134	Applicant(s) GIROUARD ET AL.	
	Examiner Anne Marie M Boehler	Art Unit 3611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 June 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-49,55,57,58,60,64-68,73,77-88,90 and 92* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-49, 55, 57, 58, 60, 64-68, 73, 77-88, 90, 92* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. In view of new Prior Art, this action, following the Decision dated June 29, 2004 by the Board of Patent Appeals and Interferences, hereby reopens prosecution.

2. Claims 15, 25, 35, and 68 are objected to because of the following informalities:

Claim 15 recites a limitation that is contradictory to claim 14, from which it depends. Claim 14 recites "the distance is 40cm", while claim 15 recites "the distance is 45cm". Similarly, claims 25, 35, and 68 contradict the claims from which they depend.

Appropriate correction is required.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 59 is rejected under 35 U.S.C. 102(b) as being anticipated by Bombardier (USPN 3,698,497).

Bombardier, in Figure 2, shows a snowmobile that has a chassis 28 (frame), with footrests 29, straddle seat 59, motor/engine 26, and two skis on the frame (not numbered but shown in Figure 2). Shaft means 52 supports and rotates the track engaging sprockets (forms the forward most drive track axle) and handlebars 72 are connected with an unnumbered steering shaft (steering

device) that connects via a linkage to the two skis (see Figure 2). Engine 26 is disposed on chassis 28 (frame) via connecting brackets 30 in front of seat 59 (see Figure 2). Shaft means 52 (forward most drive axle) is clearly viewable in Figure 2 as being located in front of footrests 29. Figures 2 and 3 in combination clearly show that the unnumbered steering shaft (steering device) connects with a linkage to the skis in front of shaft means 52 (forward most dive track axle).

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 40-43, 45-49, 77-82 and 88 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasui (USPN 4,848,503) in view of "The Seated Man (Homo Sedens) The seat ed work position Theory and Practice" article by A.C. Mandel, hereinafter reffered to as "The Article".

With respect to claims 40 and 77, Yasui shows a snowmobile 11 with a frame assembly 12, a seat 14 carried by the frame designed to accommodate a single rider seated in a straddle position (col. 1, line 66-67), a power unit 31 suspended within frame assembly 12 and including an internal combustion engine 32 that is clearly in front of the seat (see figs. 1 and 2), a pair of front skis 16 supported on the forward section of frame assembly 12 and steered by steering shaft 17 and handle bar assembly 18 (steering device) journalled to the frame forward of the seat 14 in a convenient location for operation by the rider 15

(col. 2, lines 49-55) , and a driving belt 21 (driving track) positioned beneath the seat 14 and extending rearwardly of it where it circles idler sprockets 22 and 23. The belt extends forwardly to circle driven shaft 29 (forward most drive axle) powered by the engine 32. Yasui shows a rider positioned on the seat of the snowmobile such that his body assumes a particular position, i.e., with the rider straddling the vehicle, hands gripping the steering device such that elbows are substantially over the feet on the footrests/sideboards (footrests/sideboards are not noted by a reference #) and rider's back upright.

Please note that applicant has defined the standard position and each of the angular relationships, not relative to a discreet point, but rather between various body parts of the rider.

Although the drawings are not necessarily to scale, they do show relationships of components with respect to other components as well as horizontal and vertical positioning. In view of this, it is clearly seen in figure 1 that the seat 14 provides a range of seat positions, including the seat position of the rider shown, which is behind and below the steering grip position. Footrests or sideboards (unnumbered) are generally horizontal over a substantial extent and form at least one foot position that is longitudinally between the steering position and the seat position and substantially lower than either the seat or steering position. With respect to the first angle claimed in claim 40, it would be difficult for a rider to position himself in a manner that did not satisfy the broad range if angles recited. The rider position shown in Figure 1 suggests a relatively large angle between a line through the steering position and the seat position and a

line through the seat position and the foot position that is definitely within the rather broad range provided in the claim (63-152); a second (less than 90 degree) angle between a line passing through the footrest position and steering position and a line passing through the footrest position and the seat position that is also definitely within the broad range provided in the claim (16-84); and a third smaller (less than 42 degrees) angle between a line passing through the footrest position and the steering position and a line passing through the steering position and the seat position.. Thus, the only claimed limitations found in claim 40 and not deemed to be met by Yasui is the use of a "standard rider", i.e. having dimensions and weight of a 50% human male and the rider's torso tilted toward the steering device when in a "standard seating position".

As to the "standard rider", to ensure a large customer base, it would be desirable to have dimensions of a snowmobile be capable of accommodating a large range of intended users (i.e. be it a person of small stature or an average or "standard rider" adult, or a rather tall person) therefore, it would have been obvious to have constructed the snowmobile vehicle with a "standard rider" in mind so as to be comfortable for the majority of "standard" users and to best avail the product largest cross-section of customers.

As for the "standard seating position" with the torso tilted toward the steering device, "The Article" broadly teaches that the "ideal" seating position, i.e., torso at 90 degrees to the thighs, is not a comfortable seating position for the majority of people. "The Article" further teaches that the seating position that should be considered the new "ideal" position is that in which the torso is tilted

forward and the thighs are tilted such that the person's knees are below the hips. This positioning places the least amount of stress on the lower back and hips, thus is very comfortable. (Note particularly the paragraphs bridging pages 20 and 21 directed to Figure 4 a-d as well as page 26 in the paragraph directed toward "riding"). Yasui provides a seat and footrests spanning a significant length of the vehicle that allows the rider to position himself in a number of different seating positions, based upon his comfort level. Thus, as permitted by the reference to Yasui, it is maintained that the seating position is highly dependent upon the rider's comfort level, physical conditioning, length of ride and even skill level of the operator. Such levels and conditioning all vary from one rider to another and are not constant. A rider will specifically choose how he sits with respect to the steering device and other snowmobile components based upon the variable parameters noted above. Thus it would have been obvious at the time of the invention to one of ordinary skill in the art to have had an operator select a "standard seating position" based upon his own personal preferences with respect to the steering device, seat, and footrests so that the rider is the most comfortable he can be throughout the duration of the entire ride, thus ensuring that he is best able to control the snowmobile.

With respect to claims 41-43 and 78-80 (the slightly more narrowed ranges, as well as the specific angles), although the drawings are not necessarily to scale, the positions shown in Figure 1 would suggest to one of ordinary skill in the art to configure a snowmobile so that the seat position, foot position, and steering position are relatively located with respect to one another for rider

comfort since such associated angles will vary as the rider shifts around by moving his feet along the sideboards, moves forward and back along the seat, and changes where the steering handlebar is gripped. Thus, selection of such ranges, as well as specific angles, is dependent on the comfort and safety desired by the operator. It is not specifically evident if the more specific angular relationships --first angle 83 degrees, second angle 64 degrees, and third angle 33 degrees-- in claim 43 between the lines connecting the steering position, seat position and foot position is met by Yasui. However, such angularity will depend upon quite a few dimensions and component relationships that will be decided based upon the overall dimensions deemed appropriate for the desired optimum configuration such as for rider comfort and compactness of the device. Therefore, it is maintained that it would have been obvious to one of ordinary skill in the art at the time of the invention to have constructed the snowmobile of Yasui such that the positioning of the average rider would fulfill the requirements of respective angles are 83 degrees, 64 degrees, and 33 degrees, in order to provide optimum overall dimensions of the device for rider comfort and compactness. Furthermore, it is also maintained that even without a specific effort to dimension the snowmobile of Yasui in this manner, that it would have been obvious for a standard operator to have positioned himself at these specific angles with respect to the vehicle, dependent upon the skill and comfort level of the operator in order to enhance the operators feeling of comfort and vehicle control.

With respect to claims 45 and 82, everything noted structurally above, as well as the previous obvious statements concerning the standard rider and standard seat position, also applies to the structural limitations present in this claim. Yasui further shows the first angle larger than the third angle. However, it does not show the first angle being 2.5 times the third angle. As previously pointed out, the positions shown in Figure 1 would suggest to one of ordinary skill in the art to configure a snowmobile so that the seat position, foot position, and steering position are relatively located with respect to one another for rider comfort since such associated angles will vary as the rider shifts around by moving his feet along the sideboards, moves forward and back along the seat, and changes where the steering handlebar is gripped. Thus, selection of such angles and angular relationships, is dependent on the comfort and safety desired by the operator. Such angularity and angularity relationship will depend upon quite a few dimensions and component relationships that will be decided based upon the overall dimensions deemed appropriate for the desired optimum configuration such as for rider comfort and compactness of the device. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to dimension the snowmobile so the angular relationship is the first angle being 2.5 times the third angle to provide optimum overall dimensions of the device for rider comfort and compactness.

With respect to claim 46, everything noted structurally above, as well as the previous obvious statements concerning the standard rider and standard seat position, also applies to the structural limitations present in this claim. Also,

Yasui shows an angle formed between a horizontal line and a line passing through the steering position and the seat position being well within the broad range provided in the claim (15 to 51).

With respect to claims 47-49, (the slightly more narrowed ranges, as well as the specific angles), although the drawings are not necessarily to scale, the positions shown in Figure 1 would suggest to one of ordinary skill in the art to configure a snowmobile so that the seat position, foot position, and steering position are relatively located with respect to one another for rider comfort since such associated angles will vary as the rider shifts around by moving his feet along the sideboards, moves forward and back along the seat, and changes where the steering handlebar is gripped. Thus, selection of such ranges, as well as specific angles, is dependent on the comfort and safety desired by the operator. It is not specifically evident if the more specific angular relationship -- the angle in question being 26 degrees-- in claim 49 between a horizontal line and a line passing through the steering position and the seat position is met by Yasui. However, such angularity will depend upon quite a few dimensions and component relationships that will be decided based upon the overall dimensions deemed appropriate for the desired optimum configuration such as for rider comfort and compactness of the device. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to dimension the snowmobile so the respective angle is 26 degrees to provide optimum overall dimensions of the device for rider comfort and compactness.

7. Claim 92 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bombardier (USPN 3,698,497).

Figure 2 shows a snowmobile that has a chassis 28 (frame having an inverted u-shape forming a tunnel) with footrests 29, seat 59 (inherently a straddle seat), motor/engine 26, and two skis on the frame (not numbered seen in figure 2). Shaft means 52 supports and rotates the track engaging sprockets (forward most drive track axle) and handlebars 72 connected with an unnumbered steering shaft (steering device) that connects via a linkage to the two skis (see figure 2). Engine 26 is disposed on chassis 28 (frame) via connection bracket 30 in front of seat 59 (see figure 2). Shaft means 52 (forward most drive axle) is clearly viewable in figures 2 and 3 as being located just in front of the forward extent of the footrests 29 and below the upper most portion of the tunnel 28. Figures 2 and 3 in combination clearly show that the unnumbered steering shaft (steering device) connects with a linkage leading to the skis in front of shaft means 52 (forward most drive track axle). Endless belt 44 connects between driven pulley 46 mounted on shaft means 52 and drive pulley 38 mounted on the engine's crankshaft. Although drawings are not to scale they do show relationships of components with respect to other components as well as horizontal and vertical positioning. It is clearly seen in figures 2-4 that footrests 29 are horizontal, i.e., the angle between the horizontal and the footrest is 0, it furthermore would have been obvious to have constructed the footrest in this manner for the comfort and stability of the operator. With respect to the unnumbered steering shaft and an angle it forms with vertical, the reference is

silent to such angularity. However, such angle appears to be less than 90 degrees, and in fact, less than half of that, i.e., less than 45 degrees. It is not specifically evident if the more specific angular range 25-40 degrees is met by Bombardier. Such specific angularity will be dependent upon what is most comfortable for riders as well as what provides the best steering capabilities. Thus, the selection of such a range, is dependent on the comfort and safety desired. Furthermore, such angularity will depend upon quite a few dimensions and component relationships that will be decided based upon the overall dimensions deemed appropriate for the desired optimum configuration such as for rider comfort and compactness of the device. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to dimension the snowmobile so the respective angle is in the range 25-40 degrees to provide optimum overall dimensions of the device for rider comfort and compactness.

8. Claim 85 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bombardier (USPN 3,698,497) in view of Marier et al. (USPN 5,660,245).

Figure 2 shows a snowmobile that has a chassis 28 (frame having an inverted u-shape forming a tunnel) with footrests 29, seat 59 (inherently a straddle seat), motor/engine 26, and two skis on the frame (not numbered seen in figure 2). Shaft means 52 supports and rotates the track engaging sprockets (forward most drive track axle) and handlebars 72 connected with an unnumbered steering shaft (steering device) that connects via a linkage to the two skis (see figure 2). Engine 26 is disposed on chassis 28 (frame) via connection bracket 30 in front of seat 59 (see figure 2). Shaft means 52 (forward

most drive axle) is clearly viewable in figures 2 and 3 as being located just in front of the forward extent of the footrests 29 and below the upper most portion of the tunnel 28. Figures 2 and 3 in combination clearly show that the unnumbered steering shaft (steering device) connects with a linkage leading to the skis in front of shaft means 52 (forward most drive track axle). Endless belt 44 connects between driven pulley 46 mounted on shaft means 52 and drive pulley 38 mounted on the engine's crankshaft. Bombardier does not expressly state where the center of gravity is, let alone an angle formed between a line passing through the forward most drive track axle and center of gravity and a horizontal line passing through the forward most drive track axle being less than 55 degrees, although it does show the majority of the vehicle weight, the engine and drive train, at the forward end of the vehicle and slightly rearward of the track axle 52. The track axle is vertically centered between the track 16 and the engine 26. The drawings of the Bombardier vehicle suggest the center of gravity of the vehicle is vertically positioned approximately at the elevation of the track axle, because the engine is above the axle and the track is below it.

Marier et al. '245 teaches in column 2, lines 12-15, that an engine mounted low in the frame will result in a low center of gravity, thus making steering and handling easier. Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art to have positioned the engine in the frame relative to the drive track axle, such that an angle of less than 55 degrees is formed with respect to the center of gravity and drive track axle in order to provide handling and steering.

9. Claim 83 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yasui as applied to claims 77-82 above, and further in view of Trautwein (USPN 3,583,507).

Yasui lacks left and right toe-holds.

Trautwein shows, in Figure 7, a straddle-seat vehicle with sideboards 10 on left and right sides. The sideboard shown in Figure 7 has a toe hold portion that extends up at the forward end of the toe-hold and curves back over the forwardmost portion of the footboard, to provide a releasable toe hold.

It would have been obvious to one of ordinary skill in the art to provide the Yasui snowmobile with toe-holds at the front and of the footboards, as taught by Trautwein, in order to provide the user better ability to grip the vehicle.

10. Claims 6-39, 44, and 90 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasui in view of applicant's admitted prior art (AAPA).

With respect to claims 6 and 16, Yasui shows a snowmobile 11 with a frame assembly 12, a seat 14 carried by the frame designed to accommodate a single rider seated in a straddle position (col. 1, line 66-67), a power unit 31 suspended within frame assembly 12 and including an internal combustion engine 32 that is clearly in front of the seat (see figs. 1 and 2), a pair of front skis 16 supported on the forward section of frame assembly 12 and steered by steering shaft 17 and handle bar assembly 18 (steering device) journalled to the frame forward of the seat 14 in a convenient location for operation by the rider 15 (col. 2, lines 49-55) , and a driving belt 21 (driving track) positioned beneath the

seat 14 and extending rearwardly of it where it circles idler sprockets 22 and 23. The belt extends forwardly to circle driven shaft 29 (forward most drive axle) powered by the engine 32. Yasui shows a rider positioned on the seat of the snowmobile such that his body assumes a particular position, i.e., with the rider straddling the vehicle, hands gripping the steering device such that elbows are substantially over the feet on the footrests/sideboards (footrests/sideboards are not noted by a reference #) and rider's back upright. Yasui is silent regarding the use of a "standard rider" and the position of the centers of gravity of the snowmobile and rider.

As to the "standard rider", to ensure a large customer base, it would be desirable to have dimensions of a snowmobile be capable of accommodating a large range of intended users (i.e. be it a small child or a "standard rider"adult, or a rather tall adult) therefore, it would have been obvious to have constructed the snowmobile vehicle with a "standard rider" in mind so as to be comfortable for the majority of "standard" users to avail the largest cross-section of customers.

As to the centers of gravity, according to AAPA, the center of gravity of prior art snowmobiles and his own is generally located at or near the drive sprocket (see applicant's disclosure page 8, lines 9-10). Applicant also indicates that the rider's center of gravity, in a standard position, is just forward of his stomach, set off from the center of the rider's torso (see applicant's disclosure page 8, lines 4-7). Applicant has also defined the various dimensions of the standard rider in Figures 19 and 20. Those dimensions are understood to be applicant admitted prior art. . The angle between a line connecting the center of

gravity of the rider and the center of gravity of the snowmobile relative to horizontal appears to be well within the ranges claimed. Claim 6 recites the extremely broad range of 35 degrees to 90 degrees from horizontal, which covers all angles within a 55 degree range. The center of gravity of the combined snowmobile and rider will also fall on the line connecting the two centers of gravity. Therefore, the line through the combined rider/snowmobile c.o.g. would have the same angle relative to horizontal and fall within the broad ranges claimed.

With respect to claims 7-9 and 17-19, (the slightly more narrowed ranges, as well as the specific angles), although the drawings are not necessarily to scale, the positions shown in Figure 1 would suggest to one of ordinary skill in the art to configure a snowmobile so that the seat position, foot position, and steering position are relatively located with respect to one another for rider comfort since such associated angles will vary as the rider shifts around by moving his feet along the sideboards, moves forward and back along the seat, and changes where the steering handlebar is gripped. Thus, selection of such ranges, as well as specific angles, is dependent on the comfort and safety desired by the operator. It is not specifically evident if the more specific angular relationship --the angle in question being 67 degrees-- in claim 9 is met by Yasui. However, such angularity will depend upon quite a few dimensions and component relationships that will be decided based upon the overall dimensions deemed appropriate for the desired optimum configuration such as for rider comfort and compactness of the device. Therefore, it would have been obvious

to one of ordinary skill in the art at the time of the invention to dimension the snowmobile so the respective angle is 9 degrees to provide optimum overall dimensions of the device for rider safety, comfort and compactness.

With respect to claims 10-15, everything noted structurally above, as well as the previous obvious statements concerning the standard rider, also applies to the structural limitations present in this claim. Yasui clearly shows a rider positioned behind and at a higher elevation than the forward drive sprocket, but spaced forward of the rearward most end of the snowmobile. The distance between the center of gravity of the rider (just in front of the rider's stomach) and the center of gravity of the snowmobile (approximately at the drive sprocket) is approximately the distance between the rider's elbow to his fingertips. According to applicant's diagram of a standard rider, the distance from the rider's elbow to his fingertips is approximately 43.5 cm (forearm plus hand length: 25.4 + 18.1 cm) or within the range of 41-50 cm (taken from the outer ranges described in Figure 19). Therefore, according to AAPA's description of the standard rider, and centers of gravitry of the rider and prior art snowmobile, for a standard rider in a standard position, it would have been obvious to make the distance between the center of gravity of the rider and the center of gravity of the Yasui snowmobile about the distance from the rider's elbow to his fingertips. This length is clearly within the ranges recited. As for the specific distance of 40 cm, a skilled artisan would then select a particular distance based upon the desired rider comfort and safety. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to dimension the snowmobile so that the center of

gravity of the snowmobile is spaced from the center of gravity of the rider a specific distance of 40 cm in order to provide rider comfort and safety.

Regarding claim 44, the distance between the seat position and steering position shown is approximately the length of the rider's thigh. According to applicant's description of the standard rider, the thigh of a standard rider is 42.4 cm (or between 38.9 and 46 cm). It would have been obvious to one of ordinary skill in the art to dimension the Yasui snowmobile so that the distance between the seat position and steering position is within the broad range of 40-90cm, as recited in claim 44. It would also have been obvious to select particular ranges and specific dimensions, including a distance between the seat position and the steering position of approximately 42cm, as suggested by Yasui's Figure 1 and applicant's definition of the standard rider, in order to dimension the snowmobile for a standard rider and accommodate the rider's comfort and safety needs.

11. Claims 1-5, 84, 87, and 88 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasui (4,848,503) in view of AAPA and "The Complete Snowmobile Handbook", published 1974.

Yasui fails to teach the exact horizontal position of the center of gravity of the vehicle without the rider relative to the center of gravity of the vehicle with the rider, as recited in claims 1-5. However, as discussed above, it would have been obvious to one of ordinary skill in the art to position the center of gravity of the rider on the Yasui vehicle at approximately 43cm from the center of gravity of the vehicle. "The Complete Snowmobile Handbook" describes snowmobile ranging in weight from 280 to 1538lb. An average of these would be approximately 900.

Taking the vehicle weight as 900lb., given that standard rider is 170lb, and the distance between the rider c.g. and the vehicle c.g. is approximately 43 cm, a simple calculation places the combined c.g. at X=(1/1070)170(43cm)=6.8cm from the c.g. of the vehicle. Therefore, it would have been obvious to one of ordinary skill in the art to construct a snowmobile with the features taught by Yasui at a weight of approximately 900lbs., as suggested by "The Complete Snowmobile Handbook", with a center of gravity of the vehicle at approximately 7cm from the center of gravity of the rider, as determined above, in order to size the Yasui snowmobile for the standard rider.

Regarding claim 5, Yasui also shows the seat to have a significant length relative to the overall length of the vehicle. It would have been obvious to position the rider at any number of standard positions along the length of the vehicle, including at a position forward of that shown, which would result in center of gravity of the vehicle and rider being at only 5 cm from the center of gravity of the vehicle, in order to position the rider more forward which is a better position when in anticipation of rougher terrain.

12. Claims 55 and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marier (USPN 5,660,245).

Marier shows a snowmobile with straddle seat, footboards and a windshield 25 that extends above the steering position on a handlebar steering device 23. A line drawn through the seat position and the steering handle forms a line of approximately 10 degrees from a line through the seat position and the top of the windshield. While it is not assumed that the drawings are to scale, the

relative positioning of the steering handle, the seat position and the windshield, shown if Figure 1 of Marier suggest dimensioning a snowmobile with those relative characteristics and, specifically, with the windshield extending above the elevation of the handlebar. Therefore, it would have been obvious to one of ordinary skill in the art to configure a snowmobile such that a line passing through the seat position and steering position and a line passing through the seat position and top edge of the windshield form an angle of approximately 10 degrees. It would also have been an obvious optimization to extend the windshield up, so that the angle reaches 18 degrees, in order to provide the rider with more protection from wind and snow.

13. Claim 58 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marier in view of Parks (USPN 5,251,948).

Marier shows all of the claimed features except that it is silent regarding positioning the rider's head in a laminar flow region of air moving over the windshield.

Parks teaches a snowmobile windshield which directs air flow over the rider's head to avoid turbulent air hitting the rider.

It would have been obvious to one of ordinary skill in the art to provide the Marier snowmobile with a windshield of the type taught by Parks, in order to direct the turbulent flow of air over the rider and maintain laminar flow past the rider's head.

14. Claims 59 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Christensen (USPN 3,734,219) in view of Hauser (USPN 3,578,095).

Christensen shows a vehicle with a seat d, steering member 10, two front skis 19, 20, drive track f, and front drive axle k in a tunnel formed by the snowmobile body. The position of center of gravity, c.g., of the snowmobile is shown in Figure 3 as being behind the steering member 10, with the forward drive axle positioned behind the steering member and forward of the center of gravity.

Christensen indicates that there is a engine that drive axle k, but fails to disclose its position.

Hauser shows a snowmobile with an engine 150 positioned in the front cowling, forward of the seat.

It would have been obvious to one of ordinary skill in the art to mount the Christensen engine in the front cowling, in front of the seat, as taught by Hauser, in order to effectively distribute weight within the vehicle.

15. Claims 64-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over "The Complete Snowmobile Handbook", pages 22, 50, and 324, and applicant's admitted prior art.

"The Complete Snowmobile Handbook", on Pages 21-22 describes and shows in Figure 2-1, a Bombardier Olympique snowmobile model. It shows a frame, straddle seat, two skis, and a steering device. Engine options are discussed on page 22, but are not depicted in the drawings. The steering device

is positioned forward of the seat by a spacing and the seat is depicted as extending for thirty inches (76 cm). The reference is silent regarding the position of the engine and a "standard position" of the rider. On page 50 of the "Handbook", Figure 3-4, a rider is shown in a typical sitting position. He is shown with legs straddling the vehicle, feet flat on the sideboards, hands on the handlebars and forearms and thighs parallel to each other, etc. This appears to correspond generally to applicant's defined standard position. The arms extend forward so that the seat position, as defined by applicant, appears to be approximately arms length from the steering position.

According to applicant's description of the standard rider, an arms length is approximately 72 cm (28.2 + 25.4 + 18.1= 71.7cm).

On page 324 of the handbook, Figure 12-1 shows a typical engine position, near the front drive axle and forward of the seat.

It would have been obvious to one of ordinary skill in the art to position the engine in front of the seat, as taught on page 324 of "The Complete Snowmobile Handbook" and as is typical, in order to locate the engine near the drive axle. It would also have been obvious to position the rider on the seat depicted in a "standard position" as described on page 50 and as defined by the applicant, at a location generally an arms length from the steering position, or approximately 70cm, in order to size the snowmobile for a typical rider. It would also have been obvious to position the rider on the seat in a standard position at 65 cm from the steering device, since the seat is more than capable of accommodating a rider at that location and in order to optimize the position for the rider's comfort.

16. Claims 73 and 86 are rejected under 35 U.S.C. 103(a) as being unpatentable over JA 2-273681 in view of Trautwein.

JA '681 shows a snowmobile with a frame, a straddle seat 7, an engine 5, a pair of skis 3, left and right sideboards 9, and a track 4. The sideboards are shown in the drawings as being angled at approximately 6 degrees down toward the front of the vehicle. JA '681 is silent regarding toe holds.

Trautwein shows, in Figure 7, a straddle-seat vehicle with sideboards 10 on left and right sides. The sideboard shown in Figure 7 has a toe hold portion that extends up at the forward end of the toe-hold and curves back over the forwardmost portion of the footboard, to provide a releasable toe hold.

It would have been obvious to one of ordinary skill in the art to provide the JA 681 snowmobile with toe-holds at the front and of the footboards, as taught by Trautwein, in order to provide the user better ability to grip the vehicle. It would also have been obvious to angle the toe holds of JA '681 at an angle of approximately 6 degrees, as suggested by Figure 9 of the reference, in order to provide the footboard configuration shown.

17. Applicant's arguments with respect to claims 1-49, 55, 57-60, 64-68, 73, 77-88, 90, and 92 have been considered but are moot in view of the new ground(s) of rejection.

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The "Physics for Science and Engineering" text demonstrates how to calculate the position of the combined center of gravity of two points and, on

page 246, it teaches that the combined center of gravity of two points falls on a line connecting the two points.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anne Marie M Boehler whose telephone number is 703-308-0422. The examiner can normally be reached on 7:30-5:00, Monday-Thursday, and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lesley Morris can be reached on 703-308-0629. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Anne Marie M Boehler
Primary Examiner
Art Unit 3611

amb

Approved
Robert Olszewski
Director TC 3600